National Institute of Environmental Health Sciences

Effect of floods on the transmission of schistosomiasis in the Yangtze River valley, People's Republic of China

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Abstract:

The aim of the present study was to assess the effect of floods on the transmission of schistosomiasis in the Yangtze River valley, People's Republic of China. Retrospective analyses of malacologic, clinical and epidemiologic data, covering a 22-year period, were carried out to elucidate the dispersal patterns of intermediate host snails (Oncomelania hupensis), and acute and chronic infections with Schistosoma japonicum in humans in relation to floods. Potential O. hupensis habitats in years with floods were 2.6-2.7 times larger than in years when water levels were normal. Both the density and infection rate of O. hupensis dropped in the first two years after a flood, but significantly increased in the third year. The number of acute cases with schistosomiasis japonica was markedly higher in years characterized by floods; on average, 2.8 times more cases were observed when compared to years that the Yangtze River had normal water levels. In view of our findings, emergency responses are warranted as soon as possible after the occurrence of a flood in order to avoid or mitigate the reemergence and spread of human schistosomiasis in the People's Republic of China.

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Resource Description

Communication: ☑

resource focus on research or methods on how to communicate or frame issues on climate change; surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience: ☑

audience to whom the resource is directed

Policymaker

Early Warning System: ☑

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

☑

Exposure :

weather or climate related pathway by which climate change affects health

Extreme Weather Event

Extreme Weather Event: Flooding

Geographic Feature:

resource focuses on specific type of geography

Freshwater, Valley

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: China

Health Impact:

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Foodborne/Waterborne Disease

Foodborne/Waterborne Disease: Schistosomiasis

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Children, Elderly, Low Socioeconomic Status

Other Vulnerable Population: Males

Resource Type:

format or standard characteristic of resource

Research Article

Timescale:

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content